Serial Number: 09/047,652 Filing Date: March 25, 1998

Title: Peripheral-Type Benzodiazepine Receptor: A Tool for Detection, Diagnosis, Prognosis, and Treatment of Cancer

In the Claims

Page 3

Dkt: 1941.016US1

Please amend the claims as follows:

- 1-52. (Canceled)
- 53. (Currently Amended) An isolated antisense oligonucleotide nucleic acid that is complementary contains a nucleotide sequence that is the complement SEQ ID NO:1 or SEQ ID NO:2, and hybridizes to at least a portion of a gene encoding for a peripheral-type benzodiazepine receptor (PBR) that encodes SEQ ID NO:3 comprises the nucleic acid sequence contained in SEQ-ID-NO:1 or SEQ-ID-NO:2;

wherein said nucleic acid oligonucleotide, when introduced into a cell line that expresses said PBR gene inhibits the expression of the gene thereof, and thereby inhibits proliferation of said cell line relative to an otherwise identical cell line which does not comprise said <u>nucleic acid</u> antisense oligonucleotide.

- 54. (Currently Amended) The nucleic acid antisense oligonucleotide of claim 53, which possesses a complementary structure to at-least-a portion of the nucleic acid sequence contained in SEQ ID NO:1.
- 55. (Currently Amended) The nucleic acid antisense oligonucleotide of claim 53, which possesses a complementary structure to at-least-a-portion of the nucleic acid sequence contained in SEQ ID NO:2.
- 56. (Canceled)
- (Currently Amended) The nucleic acid antisense oligonucleotide of claim 53, which 57. inhibits the proliferation of a human breast cancer cell line.

- 58. (Withdrawn) A method for inhibiting the proliferation of a malignant cell line that expresses the PBR gene, comprising introducing into said cell line an antisense oligonucleotide according to claim 53 in an amount effective to inhibit cell proliferation.
- (Withdrawn) A method for inhibiting the proliferation of a malignant cell line that 59. expresses the PBR gene, comprising introducing into said cell line an antisense oligonucelotide according to claim 54 in an amount effective to inhibit cell proliferation.
- 60. (Withdrawn) A method for inhibiting the proliferation of a malignant cell line that expresses the PBR gene, comprising introducing into said cell line an antisense oligonucelotide according to claim 55 in an amount effective to inhibit cell proliferation.
- 61. (Withdrawn) A method for inhibiting the proliferation of a malignant cell line that expresses the PBR gene, comprising introducing into said cell line an antisense oligonucelotide according to claim 56 in an amount effective to inhibit cell proliferation.
- (Withdrawn) A method for inhibiting the proliferation of a malignant cell line that 62. expresses the PBR gene, comprising introducing into said cell line an antisense oligonucleotide according to claim 57 in an amount effective to inhibit cell proliferation.
- (Withdrawn) The antisense oligonucleotide of claim 53, which is comprised in a 63. proteoliposome containing viral envelope receptor proteins.
- 64. (Currently Amended) The nucleic acid antisense oligonucleotide of claim 53, which is present in comprises part of a vector.
- 65. (Canceled)
- (Withdrawn) The antisense oligonucleotide of claim 53, which is contained in a carrier. 66.

Dkt: 1941.016US1

- 67. (Withdrawn) The antisense oligonucleotide of claim 66 wherein said carrier is a protein selected from the group consisting of a cytokine or polylysine-glycoprotein carrier.
- 68. (Withdrawn) The antisense oligonucleotide of claim 53, which is comprised in a microbead.
- 69. (Canceled)
- 70. (Currently Amended) The <u>nucleic acid</u> antisense oligonucleotide of claim 53, which <u>consists</u> comprises a nucleotide sequence selected from the group consisting of the complement of SEQ ID NO:1 or and SEQ ID NO:2.
- 71. (Canceled)
- 72. (Currently Amended) The <u>nucleic acid</u> antisense oligonucleotide of claim <u>64</u> 70, which is encoded by a vector and is synthesized in a mammalian cell following introduction of said vector into said cell.
- 73. (Currently Amended) The <u>nucleic acid</u> antisense oligonucleotide of claim 72, which is synthesized in and inhibits the proliferation of a human breast cancer cell containing a PBR protein that comprises the amino acid sequence shown in SEQ ID NO:3 when the vector is introduced into said cell.
- 74. (Currently Amended) A pharmaceutical composition comprising an An isolated nucleic acid antisense oligonucleotide that is complementary to SEQ ID NO:1 or SEQ ID NO:2, or is a fragment of 7 to 40 nucleotides thereof, wherein the isolated nucleic acid hybridizes to nucleic acid encoding SEQ ID NO:3 at least a portion of a gene encoding a peripheral-type benzodiazepine receptor (PBR) that comprises the PBR amino acid sequence shown in SEQ ID NO:3 and a pharmaceutically acceptable vehicle;

Page 6

Title: Peripheral-Type Benzodiazepine Receptor: A Tool for Detection, Diagnosis, Prognosis, and Treatment of Cancer

which antisense oligonucleotide wherein the isolated nucleic acid is present in an amount which inhibits the expression of a said PBR gene when it is introduced into a mammalian cell that expresses said PBR gene, and thereby inhibits proliferation of said cell relative to an otherwise identical cell which does not contain said antisense oligonucleotide.

- (Currently Amended) The composition antisense oligonucleotide of claim 74, wherein 75. the which is complementary to a portion of a PBR gene that encodes a fragment of a PBR protein shown in SEQ ID NO:3 that comprises the mutant residues threonine 147 or and arginine 162.
- 76. (Canceled)
- 77. (Currently Amended) The composition antisense oligonucleotide of claim 74, which inhibits the proliferation of a human breast cancer cell containing a PBR protein that comprises the amino acid sequence shown in SEQ ID NO:3 when the oligonucleotide is introduced into said cell.
- (Currently Amended) The composition antisense oligonucleotide of claim 74, wherein 78. the nucleic acid which is encoded by present in a vector and is synthesized in a mammalian cell following introduction of said vector into said cell.
- 79. (Currently Amended) The composition antisense oligonucleotide of claim 78, wherein the nucleic acid which is synthesized in a mammary gland cell following introduction of said vector into said mammary gland cell.
- (Currently Amended) The composition antisense oligonucleotide of claim 78, wherein 80. the nucleic acid which is synthesized in and inhibits the proliferation of a human breast cancer cell containing a PBR protein that comprises the amino acid sequence shown in SEQ ID NO:3 when the vector is introduced into said cell.

Page 7 Dkt: 1941.016US1

Serial Number: 09/047,652 Filing Date: March 25, 1998

Title: Peripheral-Type Benzodiazepine Receptor: A Tool for Detection, Diagnosis, Prognosis, and Treatment of Cancer

81. (New) An isolated nucleic acid consisting of SEQ ID NO:1, SEQ ID NO:2, or the complement thereof.

82. (New) An isolated nucleic acid encoding a PBR comprising SEQ ID NO:3.